

DEPARTMENT of ENVIRONMENTAL SERVICES
Water Division - Watershed Management Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: OPECHEE BAY	Lake Area (ha):	172.68
Town: LACONIA	Maximum depth (m):	18.8
County: Belknap	Mean depth (m):	6.9
River Basin: Merrimack	Volume (m ³):	11886000
Latitude: 43°32'43" N	Relative depth:	1.3
Longitude: 71°28'23" W	Shore configuration:	2.04
Elevation (ft): 492	Areal water load (m/yr):	241.7
Shore length (m): 9500	Flushing rate (yr ⁻¹):	35.10
Watershed area (ha): 91242.6	P retention coeff.:	0.06
% watershed ponded: 23.6	Lake type:	natural w/dam

<u>BIOLOGICAL:</u>		27 January 2000	22 June 1999
DOM. PHYTOPLANKTON (% TOTAL)	#1	TABELLARIA 55%	STEPHANODISCUS 35%
	#2	ASTERIONELLA 30%	TABELLARIA 10%
	#3	FRAGILARIA 10%	COELOSPHAERIUM 10%
PHYTOPLANKTON ABUNDANCE (units/mL)			
CHLOROPHYLL-A (µg/L)			2.89
DOM. ZOOPLANKTON (% TOTAL)	#1	ACTINOPHRYS 55%	KELICOTTIA 20%
	#2	KERATELLA 18%	NAUPLIUS LARVA 17%
	#3	SYNCHAETA 13%	VORTICELLA 11%
ROTIFERS/LITER		32	28
MICROCRUSTACEA/LITER		6	24
ZOOPLANKTON ABUNDANCE (#/L)		85	70
VASCULAR PLANT ABUNDANCE			Scat/Common
SECCHI DISK TRANSPARENCY (m)			6.1
BOTTOM DISSOLVED OXYGEN (mg/L)		17.2	5.3
BACTERIA (E. coli, #/100 ml)	#1		
	#2		
	#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 8.0
Hypolimnion volume (m³): 942500
Anoxic volume (m³): None

CHEMICAL:

Lake: OPECHEE BAY

Town: LACONIA

	27 January 2000		22 June 1999		
DEPTH (m)	4.0	8.0	3.0	8.0	15.0
pH (units)	6.6	6.7	7.0	6.8	6.4
A.N.C. (Alkalinity)	7.3	7.5	7.5	7.4	8.8
NITRATE NITROGEN	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
TOTAL KJELDAHL NITROGEN	< 0.10	< 0.10	0.50	0.40	0.60
TOTAL PHOSPHORUS	0.006	0.007	0.006	0.009	0.013
CONDUCTIVITY (μ mhos/cm)	70.9	70.7	73.2	76.9	79.7
APPARENT COLOR (cpu)	9	8	15	15	15
MAGNESIUM			0.76		
CALCIUM			4.5		
SODIUM			10.7		
POTASSIUM			1.05		
CHLORIDE	13	14	14		16
SULFATE	5	5	4		4
TN : TP			83	44	46
CALCITE SATURATION INDEX			2.8		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1999

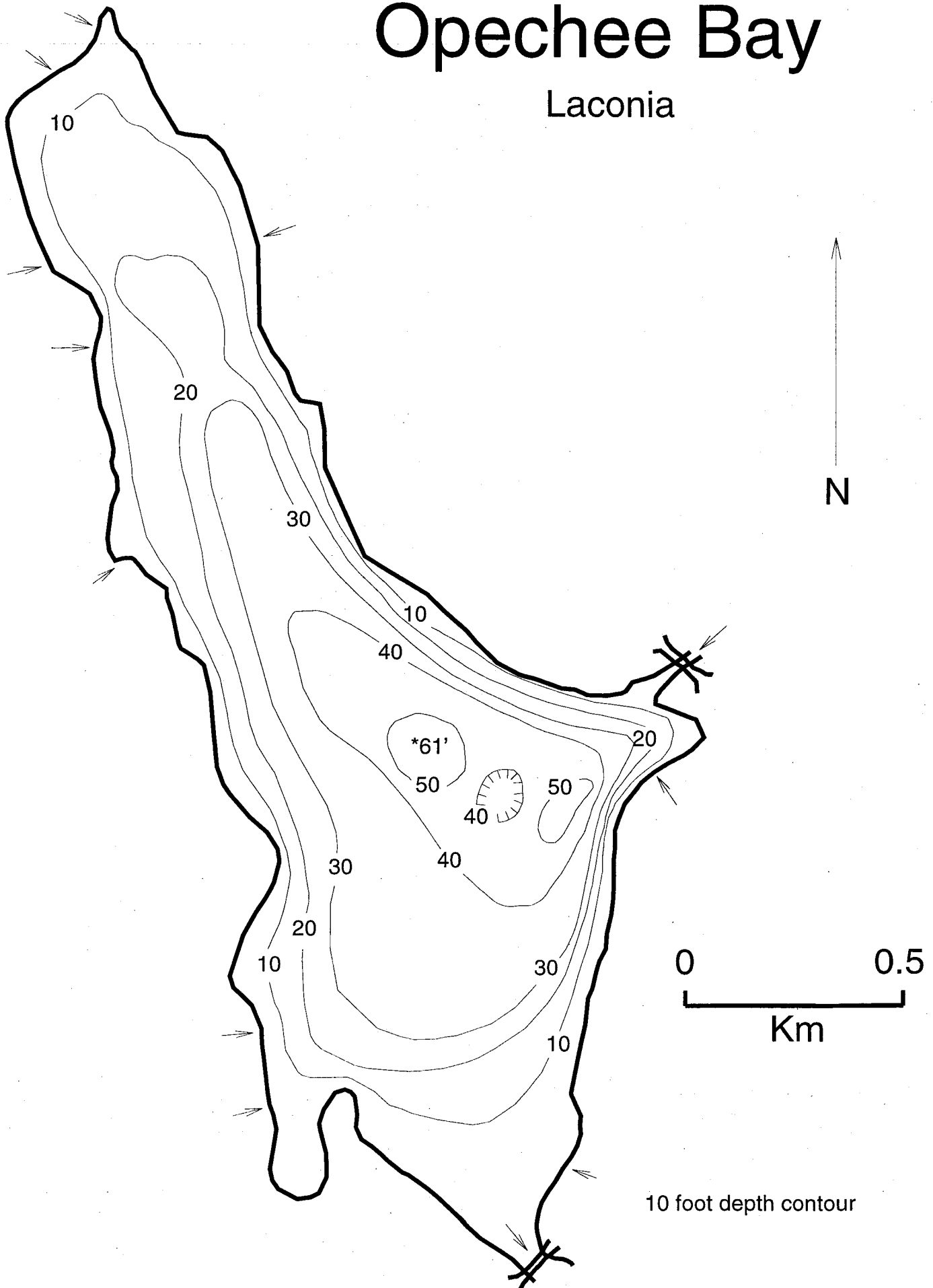
D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
0	1	2	0	3	Oligo.

COMMENTS:

1. AKA Opechee Lake.
2. Opechee Bay was previously surveyed and classified in 1979 and 1986. In both of those years it was rated mesotrophic, primarily because of no dissolved oxygen in the bottom waters. The presence of bottom dissolved oxygen (and hence the oligotrophic rating) in 1999 may be because of the earlier sampling date (June versus July in 1979 and 1986).

Opechee Bay

Laconia



FIELD DATA SHEET

LAKE: OPECHEE BAY
DATE: 06/22/1999

TOWN: LACONIA
WEATHER: Hot, Humid, calm water

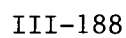
	DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
	0.1	23.9	9.0	107 %
	1.0	22.3	9.0	104 %
	2.0	22.1	9.1	105 %
	3.0	22.0	9.2	105 %
	4.0	21.9	9.2	105 %
	5.0	21.8	9.1	104 %
	6.0	21.5	9.1	103 %
	7.0	19.5	9.7	105 %
	8.0	17.2	10.2	106 %
	9.0	14.0	9.5	93 %
	10.0	12.6	8.4	79 %
	11.0	11.2	6.6	60 %
	12.0	10.8	5.2	47 %
	13.0	10.6	5.1	46 %
	14.0	10.4	5.2	47 %
	15.0	10.4	5.3	48 %
	16.0	10.3	5.3	48 %
	17.0	10.3	5.4	48 %
	18.0	10.2	5.3	48 %

SECCHI DISK (m): 6.1
BOTTOM DEPTH (m): 18.8
TIME: 1228

COMMENTS:

*Dissolved oxygen values are in mg/L

Laconia



[illegible]